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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 6485 (1972): Forceps, Gouge, Angular, Orthopaedic [MHD
2: Orthopaedic Instruments, Implants and Accessories]

“ज्ञान से एक नये भारत का निर्माण”

Satyanaaran Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartṛhari—Nītiśatakam

“Knowledge is such a treasure which cannot be stolen”



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Indian Standard

SPECIFICATION FOR FORCEPS, GOUGE, ANGULAR, ORTHOPAEDIC

1. Scope — Dimensions and other requirements for gouge forceps, angular type, used in orthopaedic surgery.

2. Material

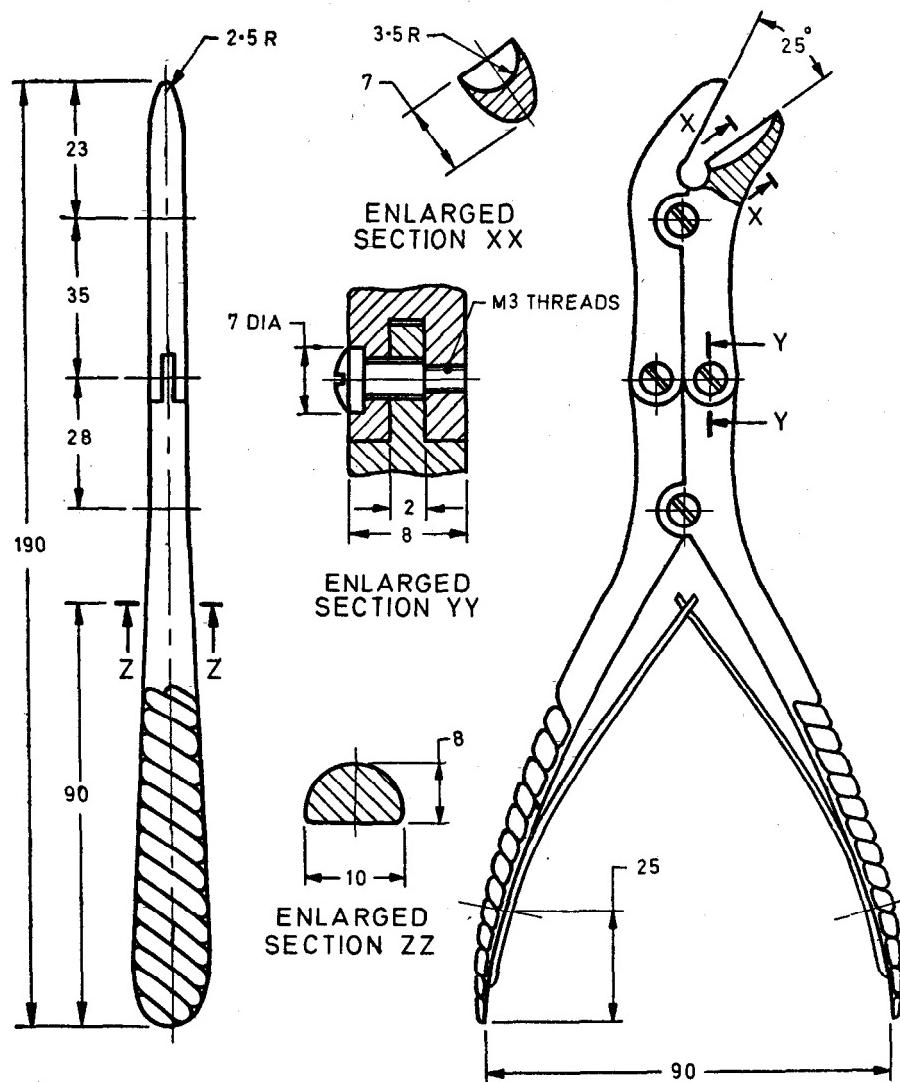
2.1 Arms — Stainless steel having the following composition:

	Percent
Carbon	0.35 to 0.45
Silicon	1.0 Max
Manganese	1.0 Max
Chromium	12.5 to 14.5
Nickel	1.0 Max
Sulphur	0.03 Max
Phosphorus	0.03 Max

2.2 Springs — Stainless steel conforming to Designation 30Cr13 of Schedule V of IS : 1570-1961 'Schedules for wrought steels for general engineering purposes'.

2.3 Screws — Stainless steel conforming to Designation 22Cr13 of Schedule V of IS : 1570-1961.

3. Shape and Dimensions — As shown in Fig. I.



All dimensions in millimetres.

FIG. I FORCEPS, GOUGE, ANGULAR

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Gr 1

4. Workmanship

4.1 The forceps shall be free from rough edges, pits, burrs, cracks and blemishes of any kind.

4.2 The cutting edges shall be sharp and uniform.

4.3 When the jaws are closed, the cutting edges shall meet evenly.

4.4 The joints shall have no undue play.

4.5 The spring action shall be smooth. It shall be neither too hard nor too slack.

4.6 The compound action shall be smooth and free from jerks.

5. Heat Treatment — The arms shall be hardened and tempered to 520 to 600 HV, the springs to 380 to 420 HV and the screws to 290 to 320 HV.

6. Finish — The forceps shall be finished smooth, passivated and polished bright.

7. Tests

7.1 Performance Test — Cut a piece of rib of a fully grown goat or sheep five times with the instrument. Each time the instrument shall cut the rib evenly in one bite without any undue resistance, and cutting edges shall not show any sign of damage.

7.2 Load Closure Test — Apply a compressive force of 15 ± 2 N (1.5 ± 0.2 kgf approximately) at the ends of the handles. The cutting edges shall meet evenly after the test.

7.3 Corrosion Resistance Test — Scrub the instrument with soap and warm water, rinse in hot water and then dip in 95 percent ethyl alcohol. Dry the instrument, immerse in copper sulphate solution at room temperature for 6 minutes and wash with fresh water or wet cotton wool.

The copper sulphate solution shall be made up as follows:

Copper sulphate ($\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$)	4.0 g
Sulphuric acid (H_2SO_4) (sp gr 1.84)	10.0 g
Distilled water [see IS : 1070-1960 Specification for water, distilled quality (revised)]	90.0 ml

There shall be no red stains or spots on the instrument, but dulling of the polished surface may be permitted.

8. Marking — The forceps shall be marked with the following:

- a) Manufacturer's name, initials or recognized trade-mark; and
- b) Country of origin.

8.1 ISI Certification Marking — Details available from the Indian Standards Institution, New Delhi I.

9. Packing — As agreed to between the purchaser and the supplier.